DATA PROCESSING
LONG-RANGE MANAGEMENT PLAN
FY 1981 – FY 1987

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Directorate of Administration

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Office of Data Processing

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OFFICE OF DATA PROCESSING

DATA PROCESSING LONG-RANGE MANAGEMENT PLAN

FY 1981 - FY 1987

MAY 1981

DATA PROCESSING LONG-RANGE MANAGEMENT PLAN

FY 1981 - FY 1987

EXECUTIVE SUMMARY

The Office of Data Processing (ODP) Long-Range Management Plan for FY 1981 through FY 1987 is designed to assist both the Agency and ODP managers to formulate their objectives regarding the acquisition and utilization of Automatic Data Processing (ADP) resources in support of the Government's foreign intelligence mission. While demands for ADP services have steadily increased, resources have increased only to meet specific intelligence projects. ODP has had limited success in meeting the increases required for general support; these limitations are most notable in the area of terminal acquisitions.

In order to improve overall effectiveness and coordinate support, the Office of Communications (OC) and ODP published a joint strategic-planning paper in early 1981 that addresses areas of common concern and joint action. This publication was followed by a series of office-level meetings to discuss substantive issues relating to teleprocessing goals.

ODP annually solicits ADP requirements from user components and reviews these and other ADP planning documents to arrive at budget estimates and develop short- and long-range plans. These plans are designed to maximize the benefits of each ADP expenditure. Displaced ADP equipment often is reutilized to upgrade other services. During this planning period every ADP service will benefit from this activity.

Some of the major issues facing ODP for FY 1983 and beyond are:

- Developing CAMS II.

- Developing SAFE and integrating it into the ODP management structure.

- Developing new systems for the Office of Finance (OF) and Office of Medical Services (OMS).

- Developing services for office automation and word-processing support.

- Developing new and innovative online applications, using relational and geographic data base systems, for the Office of Scientific and Weapons Research (OSWR), Office of Economic Research (OER), and Office of SIGINT Operations (OSO).

- Developing offsite and backup-computer facilities for emergency situations.

- Extending output-media services (quality printers, plotters, and optical-character readers) to remote locations.

- Creating a new class of end-user services for offices that do their own programming.

- Developing an enhanced graphics capability for general support.

- Developing, in collaboration with OC, a responsive, secure, and reliable telecommunications network to support remote users.

- Improving response and availability of all services.

ODP is actively planning and budgeting for each of these major areas. Technology improvements will be incorporated whenever possible as funding is approved.

15 May 1981

DATA PROCESSING LONG-RANGE MANAGEMENT PLAN

FY 1981 - FY 1987

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ILLUSTRATIONS

ATTACHMENTS

Data Processing Long-Range Management Plan

FY 1981 - FY 1987

1 - INTRODUCTION

1.1   PURPOSE

This plan describes the strategic goals of the Office of Data Processing (ODP) and offers guidance to ODP managers for developing long-range management and operational programs. It seems increasingly clear that a growing number of these goals are related to the activities of other Directorate of Administration (DA) offices. As a result, a separate joint plan has been published with the Office of Communications (OC). Also, discussions are underway with the Office of Logistics (OL) on future initiatives regarding computer-aided printed material.

1.2   SCOPE

This paper provides supporting data for the FY 1983 budget cycle and projections for the next 4 fiscal years, FY 1984 through FY 1987. ODP's strategic goals are time-independent; that is, they may be for immediate concern, for discussion and implementation, or for guidance over the next decade.

This plan is directed toward the size and form of future data processing workloads and what is needed to keep abreast of changes; it is neither directed toward specific computer hardware nor to organizational requirements. Rather, this plan provides the framework for decisions that will keep ODP technologically current and effective as an organization. The objective is to enhance the quality of ODP services and thereby increase customer satisfaction and improve the intelligence product. This year a joint strategic plan was prepared with the Office of Communications (OC) to cover the area of telecommunications support.

1.3   POLICY AND GUIDELINES

Overall policy is derived from the Office of Data Processing "Mission and Functions" statement contained in Headquarters Regulations [____] dated 2 May 1979. Per that regulation, the Director of ODP (D/ODP) is directed to "provide a central computer service to satisfy automatic data processing (ADP) requests from Agency components and the Intelligence Community (IC), as assigned." ODP's "Management Plan" is considered a principal instrument in fulfilling ODP's mission.

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In accordance with a Deputy Director of Central Intelligence (DDCI) memorandum to the Executive Committee (EXCOM), dated 23 May 1979, the D/ODP is directed to "provide EXCOM with an update of the 7-Year Plan during the first quarter of each fiscal year."

In accordance with a memorandum to its ADP Subcommittee, dated 11 September 1978, the Intelligence Information Handling Committee (IHC) requires that a plan be submitted for incorporation into a community-wide plan.

1.4   MAJOR ACCOMPLISHMENTS

Besides improving its general support functions during the past year, ODP has made significant contributions in support of Agency personnel and logistics matters and has responded to IC requirements. ODP continues to make progress on the Support for the Analyst File Environment (SAFE) project.

1.4.1 Agency Personnel System

In support of Agency personnel functions, ODP:

- Introduced an Agency-wide integrated personnel system.

- Implemented an Agency-wide training, tracking, and reporting system.

- Installed a minicomputer to support applicant processing (CAPER).

1.4.2 Logistics Support

In support of Agency logistics functions, ODP:

- Installed a minicomputer to implement the Federal Automated Requisitions System (FARS) for OL.

- Started design of Logistics Integrated Management System (LIMS).

- Implemented a minicomputer system in Printing and Photgraphic Division (P&PD).

1.4.3 Community Support

In support of the Intelligence Community, ODP:

- Defined the requirements and design for the Community-wide, Computer-assisted, Compartmentation, Control (4C) System.

- Initiated extensive efforts to develop systems concepts for COMIREX Automated Management System (CAMS II) to meet new requirements for reconnaissance-collection systems in 1984; installed and started testing of a graphics capability for the current CAMS. When completed, it will become operational on a realtime basis.

1.4.4 Scientific Support

In support of the Agency's scientific functions, ODP accepted the Telemetry Analysis & Display System (TADS) from the development contractor and, subsequently, upgraded support from an IBM 360/67 to an IBM 370/158, with virtual machine (VM) 370 software. The name for this project was changed to Technical Analysis and Display System to reflect the broader range of support.

1.4.5 General Support

In the area of general support, ODP:

- Installed a Xerox 9700 for forms printing, with resulting increase in speed and quality of printing jobs.

- Assumed responsibility for monitoring Agency word processing activities, including acquistion approval.

- Increased the number of timesharing users to more than 3400.

1.4.6 SAFE Developments

In support of SAFE, ODP:

- Completed the systems-design review and approved the contractor's hardware selection (Burroughs).

- Started installation of the Wideband Bus Communications Subsystem (WBCS) after the plan was modified to permit WBCS to serve the entire Headquarters building.

- Started renovation of the 9000 square-foot computer center.

2 - STRATEGIC CONSIDERATIONS

2.1   CURRENT ADP ENVIRONMENT

Major technological advances continue to improve ODP's methods and capabilities for providing service. Equally important, end-users have increasingly become a central factor because they are more involved in developing new systems and in playing a greater role in systems requirements and operations. This development is more significant than the spread of computer hardware to various locations and organizations. ODP's improved flexibility is made possible by the drop in hardware costs. Other factors pointing to a new era in the Agency's information-handling capability are improved communications, enhanced database capabilities, and the growing user experience in data processing. This Long-Range Plan provides a framework for both ODP managers and users to make them aware of ODP objectives, areas of responsibility, and established priorities. Users can be more involved in control of those services deemed critical to their operations.

During this planning period, ODP will continue to evaluate new developments in ADP technology. The most significant advances anticipated are increased miniaturization of hardware components, increased central processor speeds, faster, higher density peripheral devices, improved network architecture, increased interactive applications, improved graphics capability, and increased use of minicomputers.

Distributed computer power will be more directly available to users at their work stations; nonetheless, the need for and growth of large mainframe facilities will continue. Use of improved memory, high-speed tape drives, and direct-access storage devices (DASD) also will expand. Further, improved hardware and software will significantly increase the amount of online information directly accessible to users of ODP services.

Major technological advances in communications are expected. Use of remote terminals, located at great distances from the computer and eventually supporting users not now being served, will substantially increase, as will the use of direct communication between computers. Because of increased processing speeds along with communications advances, improved software, and lower lease costs, ADP hardware costs should substantially decrease. However, while ADP hardware prices will decrease, resulting in an improved price-performance ratio, the cost of acquiring and creating software will increase.

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The most compelling reasons for replacing existing hardware during the next five years are prospects of improved hardware and system software reliability, expanded capacity and capability needed for increasing consumer requirements, and limited available floor space. There also will be an increasing use of minicomputers for scientific, engineering, and business applications. Therefore, advances in technology during the next decade will permit more effective use of space and increased computing capacity at lower costs. ODP will work closely with the newly appointed Information Handling Systems Architect.

2.2   ASSUMPTIONS

In its long-range planning considerations, ODP must assume that:

- Financial resources will barely keep pace with inflation, except in those cases involving projects deemed worthy of receiving extraordinary support.

- Manpower resources will be equally limited.

- Customer requirements will continue to expand at projected rates with end users becoming more involved in the ODP network; ODP will put increasing emphasis on standardizing ADP hardware and software.

- The appointment of an Information Handling Systems Architect will provide additional opportunities to develop Agency and community-wide compatible information-handling systems. Having a central point for review of systems designs should facilitate ODP efforts to coordinate and develop systems, and thus avoid overlap with other components on common problems or goals.

2.3   FUTURE DIRECTIONS

During the period under consideration in this long-range plan, ODP must continue to develop operational plans with other offices involved in the various aspects of providing secure services, such as communications, printing, crypto, and computer output microfilm (COM).

ODP must provide a common set of standard services together with adequate training that can be adapted to individual problem situations. ODP also must continue (again in concert with other concerned offices) to find ways to assure continued and uninterrupted service along with protecting data under its control.

Further, Project SAFE under ODP control must be implemented successfully and integrated into the current ODP organization.

3 - REQUIREMENTS

3.1 GENERAL SERVICES

ODP uses a number of sources to project workload and growth of services. All major users of ODP services provide an annual statement of their requirements. This may take one of several forms, such as an EXCOM review, a formal paper, or a Form 930, "Computer Services Request/Action Form." Other ways to judge requirements for services are from requests for terminal installation and for interactive system passwords; each Agency office is asked to submit annual estimates of terminal needs. ODP's workload projections are made on the basis of these customer requirements and by tracking historical growth patterns to derive long-range planning and budget objectives.

As ODP enters the next 4 to 8 years of growth, the differences seen by ODP will focus on the way the workload is developed and controlled by end-user offices through the use of minicomputers, intelligent terminals, and common databases.

3.1.1 Online Services

VM service, upgraded in FY 1980 by the installation of an Amdahl V8, continues to grow with the installation of a larger 3033 MP (multiprocessor) in March 1981 (Figure 1). There currently are 3400 VM users; the issuance of passwords for new users continues to increase steadily. By December 1983, it is projected that requirements will exceed the capacity of the 3033 MP and that future expansion will require ODP to examine alternative means of providing support to VM users. The Directorate of Operations (DO) already has been provided with a VM system available in the Special Computer Center (SCC) to provide protection of data and improve availability.

3.1.2 Batch Services

Two factors are relevant in examining the batch workload projection--the ability to provide reasonable prime-time turnaround and a full 24-hour capacity (Figure 2). Traditionally, a 10 to 15 percent annual increase in workload has been projected; if batch turnaround deteriorates, there is a corresponding increase in demand for online services as users try to improve processing performance. Batch remains a relatively inexpensive way to meet the needs of a large number of users--as long as the system is responsive. Since the batch system can be divided among several CPUs, the capacities listed are the optimum available. When any other service is forced into backup configuration, batch usually is the first to be reduced; however, since it is divided among several CPUs, the negative impact on users is minimal.
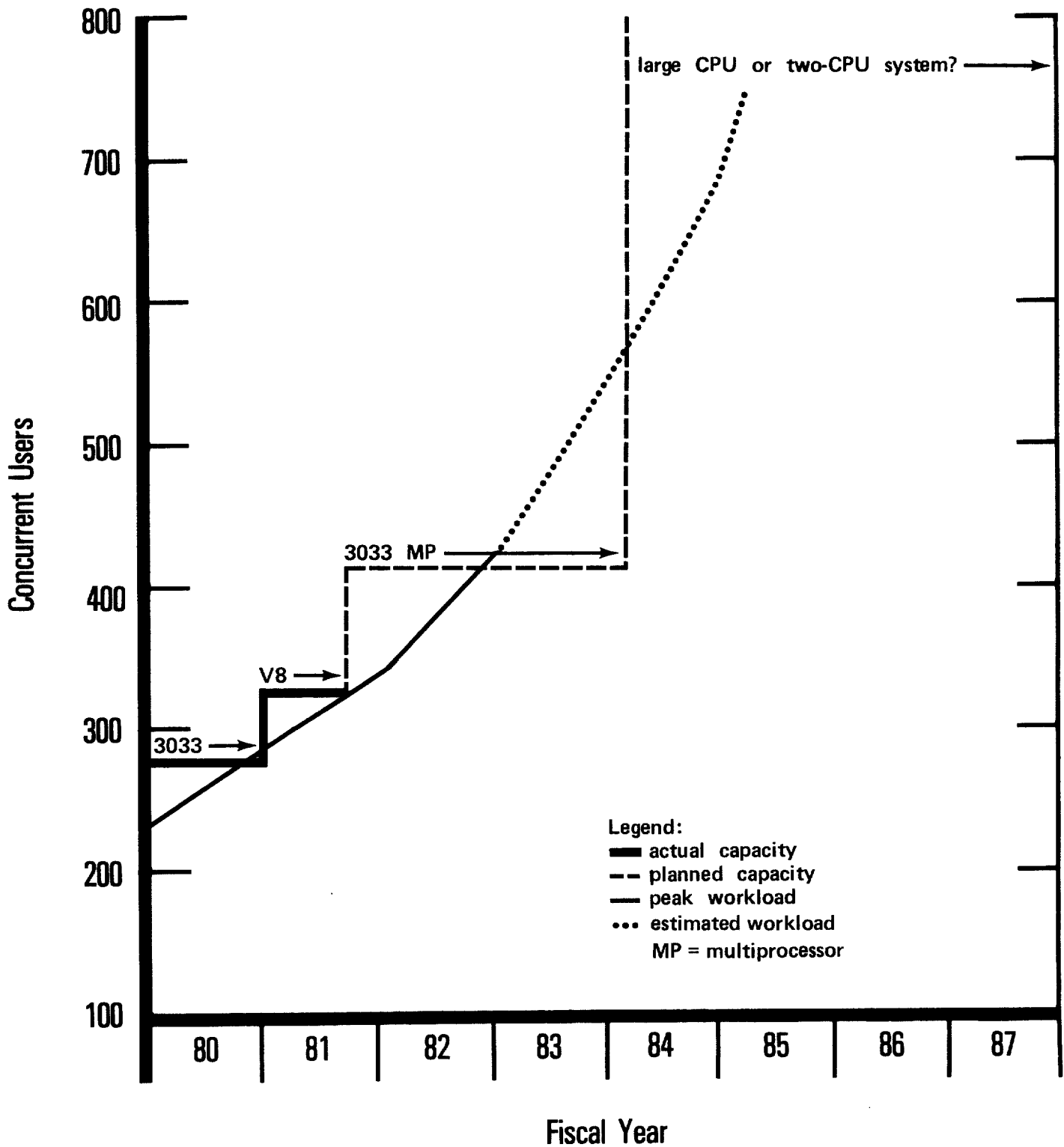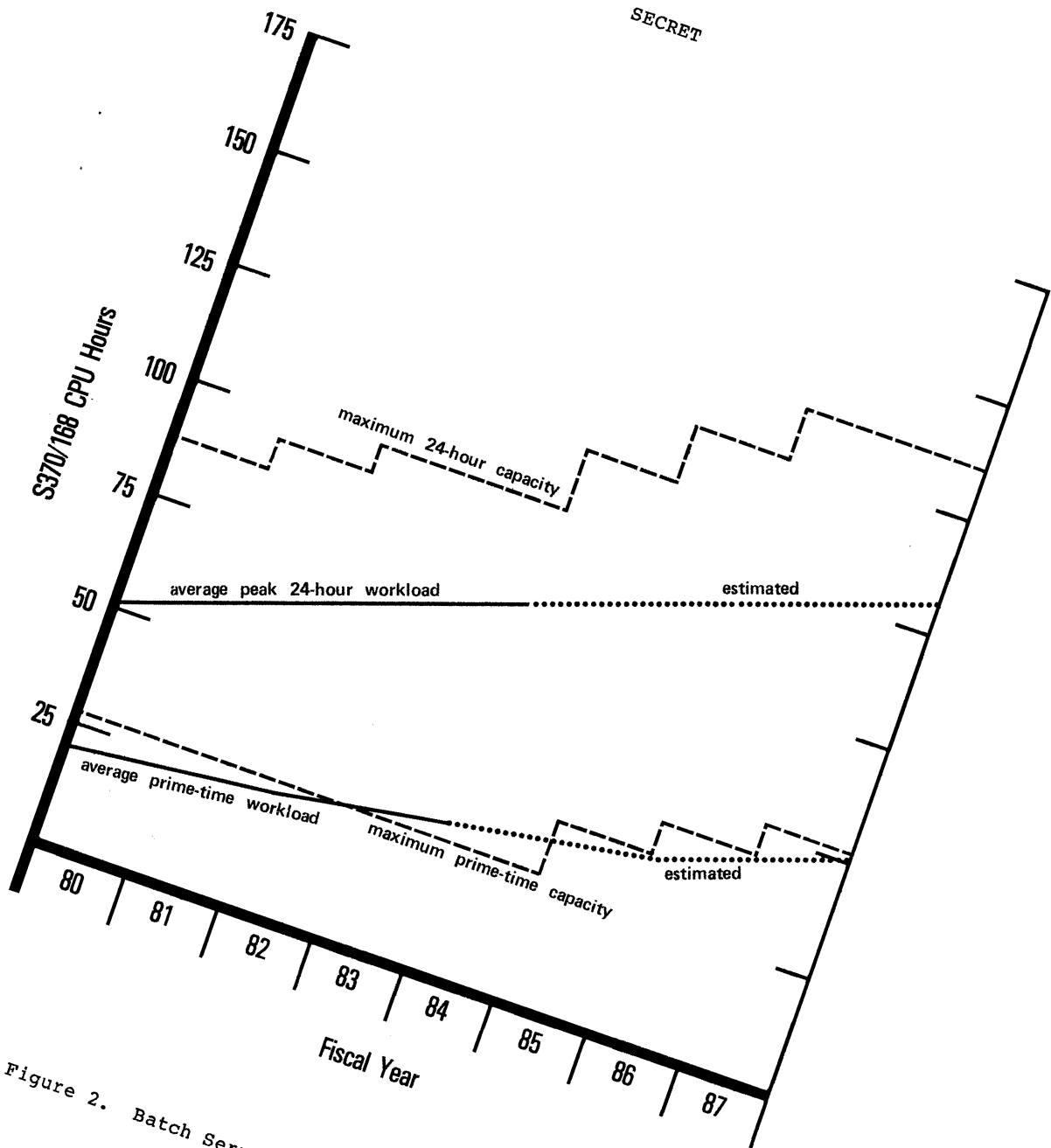
Figure 1. VM Service Capacity vs Workload

Figure 2. Batch Service Capacity vs Workload

3.1.3 Generalized Information Management System (GIMS)

The Generalized Information Management System (GIMS) is used to provide centralized data base management service (Figure 3). There currently are some 35 distinct databases on the single GIMS CPU, with 18 more scheduled for FY 1981. Small increases in CPU power are projected in FY 1981 and FY 1982, and a similar increase in demand is projected for the subsequent years of this plan. This service also is available as a separate service in the SCC.

3.1.4 Peripheral Equipment Requirements

Peripheral equipment herein described includes graphics devices, plotters, minicomputers, and CRT and printer terminals.

3.1.4.1 Graphics Devices

In addition to the use of graphics capabilities in cartography, requirements for computer graphics capabilities involving visual representation of statistical and technical data are surfacing from a wide variety of sources. A focal point must be established for integrating the independent computer graphics systems used in collecting and exploiting intelligence data or in support of the intelligence process. Manual preparation of graphics used in the analysis, presentation, and publication of information are not keeping pace with the increased demand for visuals. A variety of computer graphics capabilities will be provided for both analytical and support functions.

3.1.4.2 Minicomputers

For the last several years, customer requirements have existed for stand-alone minicomputers or minicomputers networked with ODP central services. These requirements stem from such considerations as security, critical response time, administrative concerns, or the commercial availability of applications software implemented on minicomputers (so-called turnkey systems). Because of budget and personnel restrictions, formal ODP hardware and software support of multiple-minicomputer types is not feasible. ODP has implemented a standardized approval mechanism.
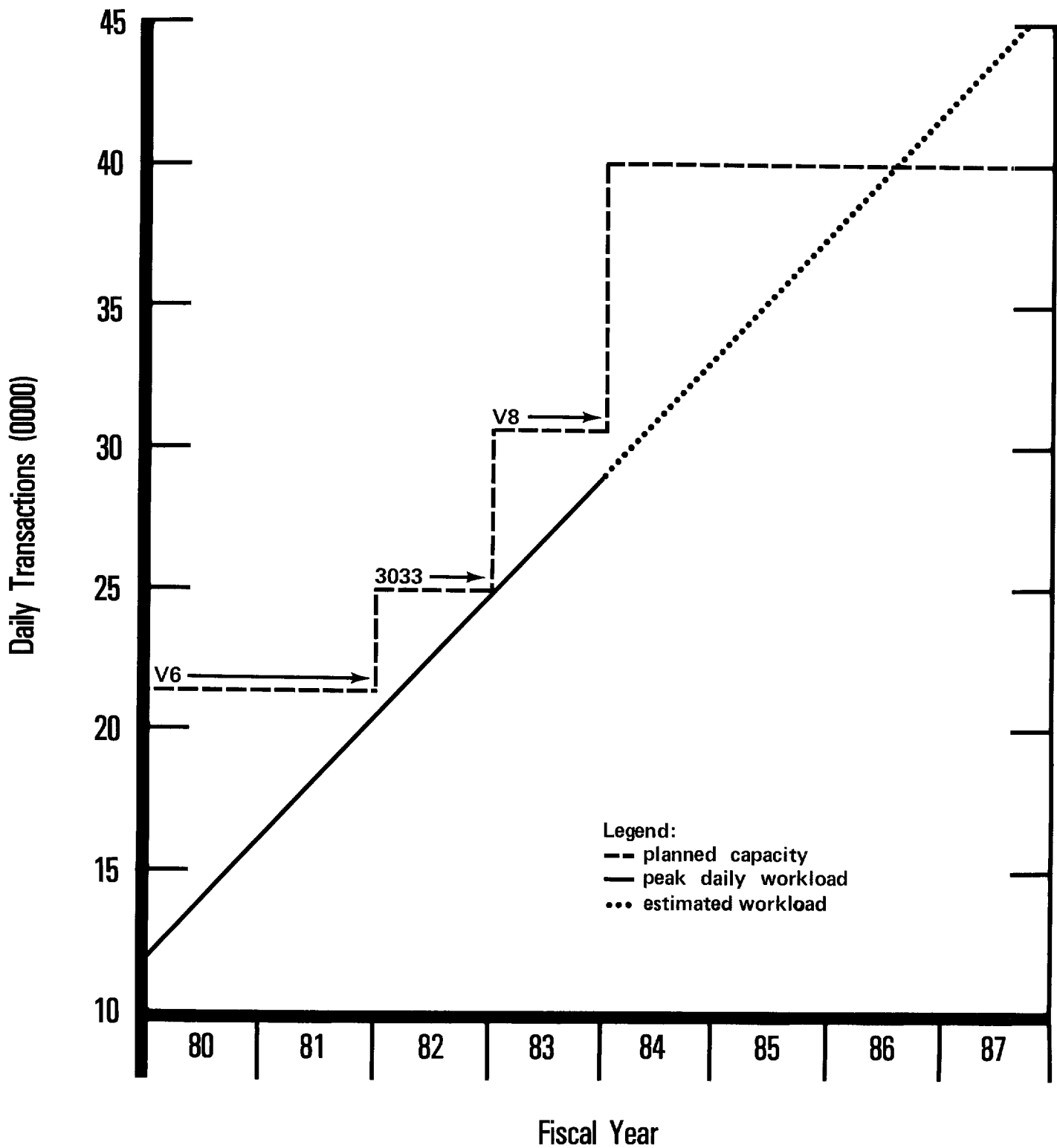
Figure 3.   GIMS Service Capacity vs Workload

3.1.4.3 Terminals

The requirement for interactive terminals continues to grow at an increasing pace. However, much of this growth is the result of being unable to satisfy requirements from prior years. In 1979, 69 percent of user requirements were funded; the percentage has dropped significantly each year since, and in 1983, less than 25 percent of the requirements will be funded by ODP. Directorate ADP Control Officers have been notified of their requirements that will not be funded in the FY 1983 ODP Program Plan; as a result at least two Directorates are planning to fund their own most critical requirements.

3.2 MAJOR PROJECT REQUIREMENTS

Several users require services that are processed on independent CPUs because of the project's size or for security reasons. Since each project serves only one function or purpose, requirements are predictable.

3.2.1 Support to IC: CAMS, 4C, and [   ]   25X1

These major projects are either operational or well along in development. CAMS, the largest of the three, is expected to continue to grow because of its direct relationship to the reconnaissance collection system (Figure 4). Current systems are expected to meet demands until 1984 when major new collection systems become online. A large CPU will be obtained for development of this new system and will then become the production system. Major enhancements also will be developed for graphics capabilities using minicomputers as interfaces. A Request For Proposal (RFP) has been issued for contract support in the development of these space requirements.

Community-wide, Computer-assisted, Compartmentation, Control System (4C), a turnkey system designed to provide up-to-date clearance status of individuals, will utilize a 370/158 CPU that is being released from the central services network. Some peripheral equipment will be required. The software will be provided by Electronic Data Systems (EDS).

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3.2.2 Support to the National Foreign Assessment Center (NFAC)

In addition to the activities reported under project SAFE, support to NFAC was increased by expansion of Interim SAFE as recommended by the DCI Scientific and Technical Advisory Panel (STAP), mostly within existing budget and equipment inventories.
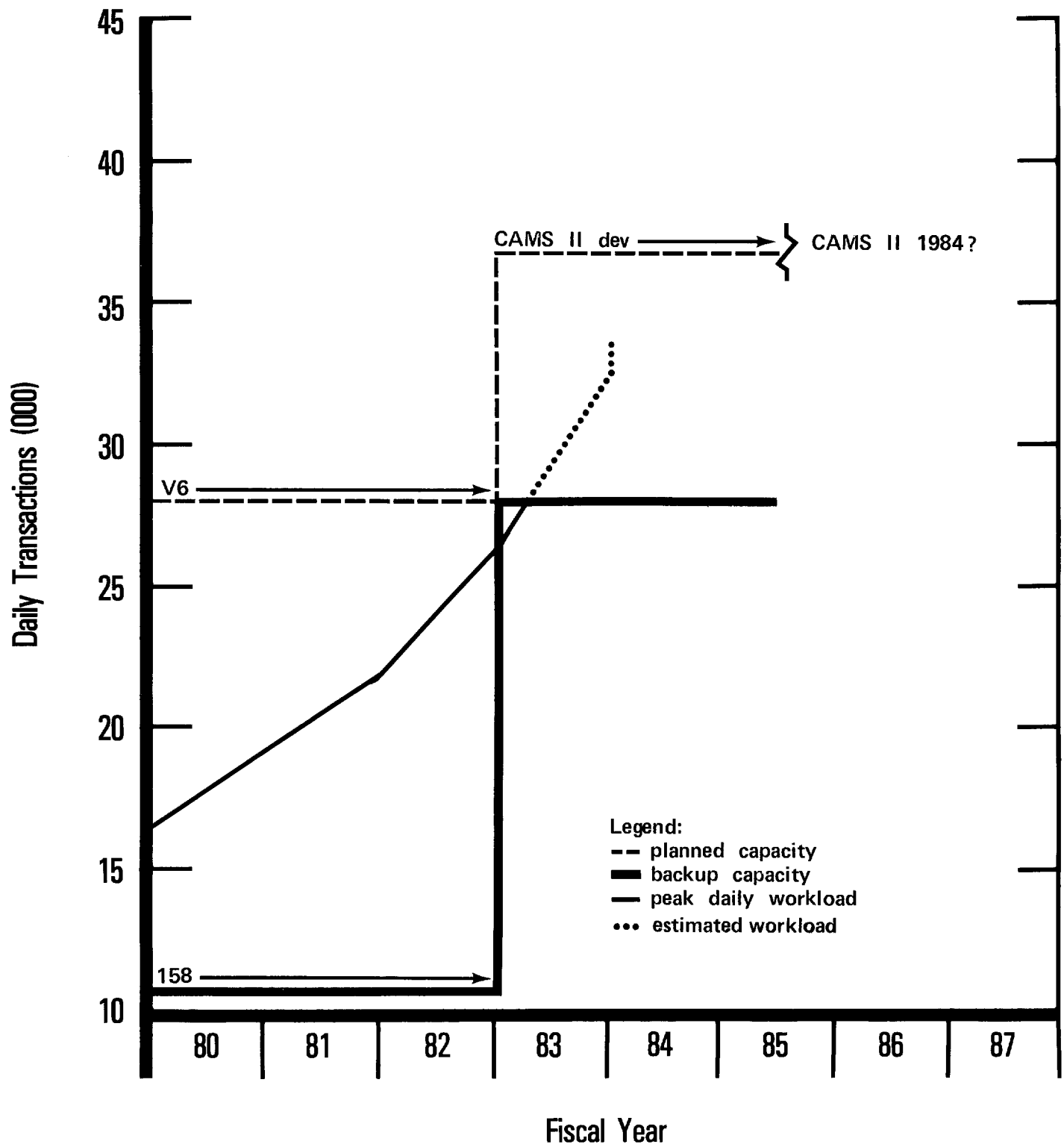
Figure 4. CAMS Service Capacity vs Workload

This expansion is referred to as the Pilot Mail Operator (PMO). NFAC produces an annual ADP plan that ODP uses as guidance for planning and budgeting and as a requirement statement for both short and long-term needs. Among the additional continuing requirements are those for TADS, Order-of-Battle of Soviet and Chinese Forces (OASIS), and Economic Modeling. For the latter, the Office of Economic Research (OER) is working with the Office of Research and Development (ORD) on a mass-storage capability. TADS, an interactive computer system designed to support technical analysis, makes it possible to process large amounts of raw data in a timely and efficient manner. As of this writing, a methodology has not been devised to measure usage and thereby project requirements. However, plans call for upgrades as equipment is released from other services. Among the current needs are those for additional paging and graphics support.

3.2.3 Support to DO: HUMINT

DO has provided ODP with a comprehensive set of near- and long-term requirements (Figure 5).

The most significant of these, in terms of their impact on ODP's computer systems plans, include (1) the DO's requirement for security-compartmented VM and GIMS services, and (2) its requirement for a single system capable of running all of its critical online applications. This second requirement is to enable effective operation of these applications even when the second machine has been preempted to back up CAMS service. Plans to meet these requirements call for replacing the IBM 370/158 Attached Processor (AP) (Red) with the Amdahl 470V/6-1 from the Ruffing Computer Center (RCC) in FY 1981. In FY 1982, the 3033 UP (uniprocessor) will be moved from RCC to replace the 370/158 AP (Blue).

3.2.4 Administrative Support

The variety and number of requests received for administrative support have prompted ODP to try to summarize these requirements and concentrate on the development of generalized systems that the end users can tailor to deal with individual problems. ODP will support individual office efforts to adapt these general utilities by providing training and establishing standards. The range of activities under this administrative support category include personnel, electronic mail, the automated office, automated registries, graphics, and a new payroll system. Because of the the size of the manpower requirement, the new payroll requirement is the subject of a DA budget-resource package.
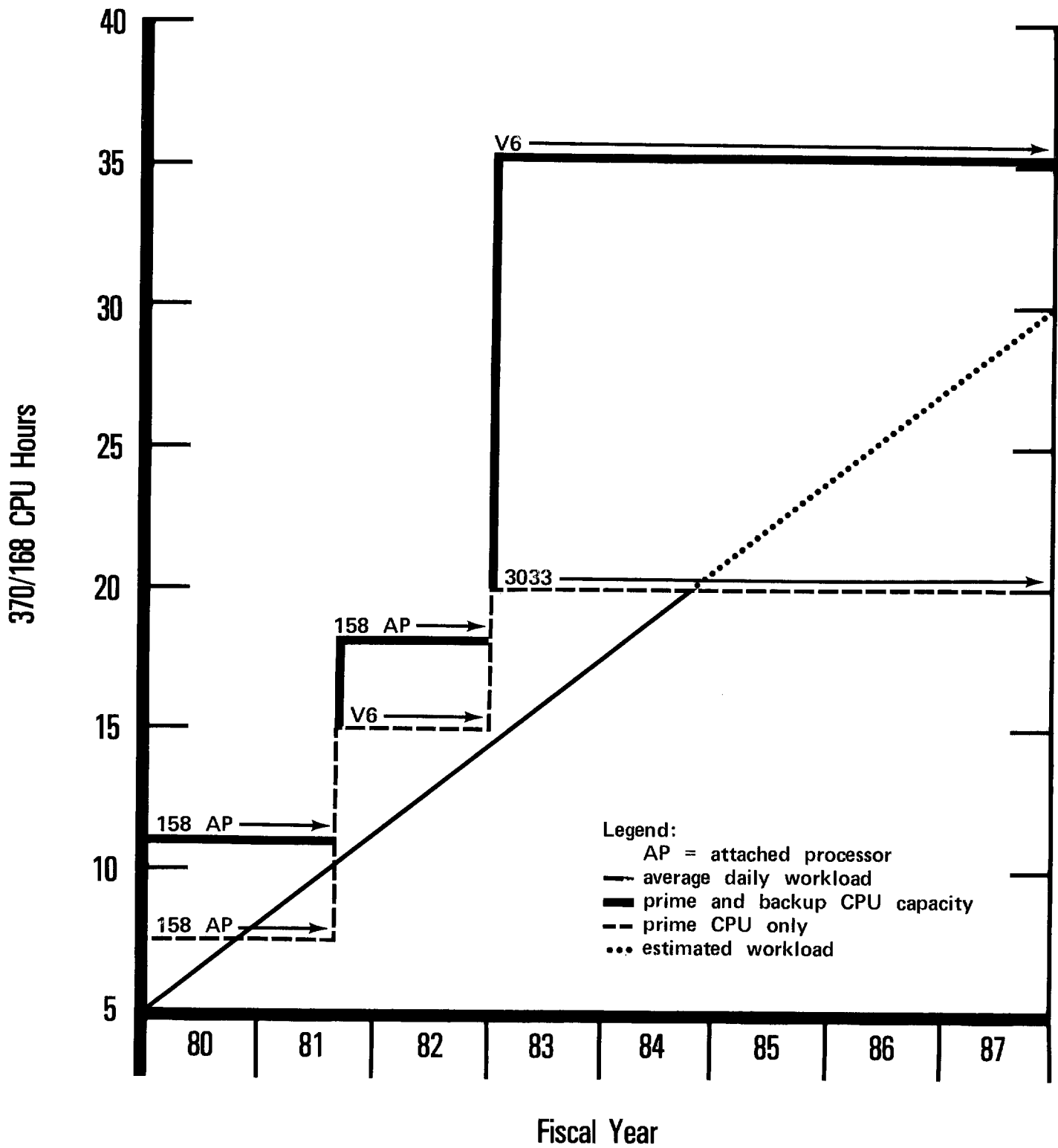
Figure 5. DO Service Capacity vs Workload

4 – ODP CUSTOMER SUPPORT GOALS

4.1   END–USER PROGRAMMING

Innovations in the fields of telecommunications and database systems have presented opportunties for end-users to develop their own system structured to the needs and priorities of their organization. Although we are seeking some increases in the number of applications programmers in the FY 1983 ODP Program Plan, the continuing backlog of requests for their support requires us to develop a new category of services for end users who do their own programming.

4.1.1 Goal

ODP's goal is to create a category of service that provides a variety of support to user programming, with emphasis on software packages adaptable to the maximum number of requirements.

4.1.2 Plans

To enhance customer support, ODP plans to:

- Develop a software package that will produce routine graphs and bar charts.

- Provide a statistical package that produces common management statistics.

- Obtain software packages with the widest applicability for report generation, database management, and query languages.

- Develop a common set of programs for the Delta Data 7260 and establish a Delta Data user's group.

- Use the lastest Computer-Assisted Instructions (CAI) facilities, to provide training and assistance, whenever possible.

- Develop online documentation to complement the above listed services.

4.2 AUTOMATED OFFICE

Perhaps the term "automated office" was coined by a data processing salesman on a dull sales day. Nonetheless, ODP plans a variety of tools that, when properly implemented, offer significant improvements in many routine office functions. Word processing (WP) and word processing equipment (WPE) are the most visible of the office automation concepts and, to date, the most difficult to control. Yet, controlling WPE is one of the keys to a successful office automation plan. The moment information is typed, the capability should exist for transferring it to an electronic environment. ODP Applications conducts WP studies for Agency components that include a requirements' analysis, cost justification, several alternative solutions, and recommendations.

4.2.1 Goal

The automated office offers a category of services to customers that will allow a smooth transition to automation with software and hardware that are both friendly and adaptable to a normal office environment.

4.2.2 Plans

In support of the automated office concept, ODP plans to:

- Standardize equipment and software with compatible communications features for integration into the RCC computer systems.

- Provide an electronic mail service.

- In collaboration with OL and OC, improve output capabilities, especially high-quality printing, by establishing regional centers where demand so dictates.

- Extend the use of an automated-registries software package.

- Provide adequate training and facilities for user assistance.

5 – PROJECT SUPPORT

5.1   BACKGROUND

ODP has the responsibility for several activities that, because of their size, importance, security requirements, or other special needs, are managed and budgeted separately. Usually, these projects serve a wide user audience and cross organizational lines; they often extend outside the Agency to other IC organizations and provide a unique product that is intended for a select group and a specific purpose. Each of these projects has its own priorities and goals. However, when implemented, they are all managed as ODP services within the framework of existing ODP organization and subject to policy guidelines governing ADP support. In the final analysis, support of these projects is an extension of ODP's general-support services.

5.2   PROJECT SAFE SUPPORT

Project SAFE, under development by the Special Projects Staff (SPS), is now in the system-development phase. ADSTAR, the related document-storage system, has been completed and will be used for DO requirements as well. The Wideband BUS Communications System (WBCS) currently is being installed in Headquarters building for SAFE and other general usage. NFAC funds are used for this project; site preparations are well underway. The plan calls for SAFE to be phased in over a number

25X1 of years with about [   ] in the initial user group. SAFE will be required to manage access to intelligence documents and open-source information received by CIA in hardcopy and electrical form, and used in the process of intelligence analysis and production. Electrical documents, arriving at the rate of approximately 3500 messages per day, will be stored in various computer-controlled files within the SAFE system.

5.2.1 Goal

ODP's goal is to integrate the SAFE data processing functions into ODP, the WBCS functions into OC, and user support functions into the Office of Central Reference (OCR). These goals will be implemented in a manner that will ensure the satisfaction of SAFE requirements and provide effective management of SAFE within those organizational components.

5.2.2 Plans

In support of SAFE, ODP plans to:

- Expand SAFE users as a pilot program (PMO) to acquaint more analysts with SAFE-like capabilities.

- Transfer management of personnel, access control, and configuration management to Operations Division/ODP, at full-operational capability (FOC).

- Include funds in the NFAC budget for personnel needed for an around-the-clock 24-hour operation.

- Establish regional print centers as requirements are surfaced and space and personnel become available.

- Merge the systems programming and engineering functions and personnel into Processing/ODP, after project acceptance.

- Cooperate with OCR to establish a viable user group to include planning for future enhancements.

5.3   CAMS SUPPORT

CAMS, as currently designed, has reached its maximum capability. Major new collection systems, which will become operational in FY 1984, will require an enhanced system--CAMS II. The current system will be frozen at the end of FY 1982 to allow completion of CAMS II to coincide with the new collection system (FY 1984).

5.3.1 Goal

ODP's goal is to maintain the ongoing system while developing a new, enhanced system to become operational in FY 1984.

5.3.2 Plans

In support of CAMS, ODP will:

- Maintain the current system and continue to develop an interactive color-graphics capability that can be incorporated into CAMS II.

- Develop requirements for CAMS II.

- Contract for the acquisition of CAMS II software and hardware.

- Coordinate communications and security requirements with both OC and the Office of Security (OS).

5.4   COMMUNITY-WIDE, COMPUTER-ASSISTED, COMPARTMENTATION,
        CONTROL (4C) SYSTEM -- SUPPORT

The Office of Security (OS) funds 4C which is implemented by ODP
as part of an overall program to upgrade and automate IC security
procedures.   When completed, 4C will provide IC security
representatives with an up-to-date and comprehensive database
that reflects the special-clearance status of individuals entered
into the system.

5.4.1 Goal

ODP's goal is to establish and maintain an automated database of
individuals cleared for special compartmented data which will be
accessed by user agencies.

5.4.2 Plans

In support of 4C, ODP plans to:

- Complete the design specifications, develop the
  software, and install an existing IBM 370/158 to
  support this project.

- [   ]   25X1

- Implement worldwide service starting in 1983.

6 - GENERAL HARDWARE SUPPORT GOALS

6.1 BACKGROUND

Database and communications technologies have placed ODP at the brink of supporting a large network of thousands of online terminals and a network of minicomputers for local problem solving and communication with Headquarters databases. Declared strategic goals and objectives permit more effective control of ODP growth and the direction of this growth. Information-processing requirements placed on ODP must be reviewed carefully to ensure their compatibility with other strategic goals. Equally significant is the realization that ODP cannot satisfy all requests and that users must be made aware of the limitations of planned resources. This section highlights ODP objectives and provides a blueprint for the various processes that support ODP's overall strategic goals.

ODP management plans and budgets for hardware to be used adjacent to or connected to the central-processing facility. In other cases, ODP develops hardware standards that have Agency-wide application which, although using ODP expertise and documentation, may be budgeted for and procured by other components to solve their unique processing problems. Examples of this are the Delta Data microprocessor system, the Design 100 hardcopy printer, and the IBM 370-compatible minicomputer project.

6.2 GENERAL SERVICES SUPPORT

ODP's main thrust regarding hardware is to provide end users with conveniently situated, reliable, and "friendly" work stations that have the central CPU power needed to support the network. Equipment must be in accordance with current security regulations and approved by OC to meet emanation standards. Traditionally, ODP has budgeted, selected, procured, and maintained its computer equipment. However, during the past few years, this procedure has been difficult to implement because of budgetary restraints, especially where terminals are concerned. Despite these restraints ODP will be able to meet essential requirements if users list their requirements and priorities. The procedure described does not preclude having users with special requirements submit budgeted funds to ODP for ADP procurements; this is especially true for large requirements such as SAFE and those projects listed in Section 5 of this document.

The Comptroller has instructed user offices to budget for minicomputers. If the requested minicomputers are IBM 370-compatible, ODP will support and maintain them to the extent possible. These requirements stem from such considerations as security, critical response time, administrative concerns, and the commercial availability of applications and software implemented on minicomputers.

ODP's goal is to provide support for a standard set of hardware and software for the distributed-processing network.

6.2.1 ODP's Minicomputer Plans

ODP plans to formally support a standard minicomputer alternative to the ODP central service. The minicomputer alternative should be to support ODP operating and database-management systems; this will permit straightforward applications software processing on either the standard minicomputer or a central service mainframe and thus permit resource savings in software support.

6.2.2 Computer Terminal Plans

Using an annual user survey as the basis, ODP will continue to attempt to budget for standard terminals. In addition, replacement of all old terminals will proceed as requirements are surfaced and will be subject to the availability of funds. Whenever a terminal is no longer maintainable, it also will be replaced by a newer model. When offices are relocated, new terminals may be installed to replace old terminals--again subject to the availability of funds. The following table reflects the installation history and demands for all terminals as monitored by ODP through an annual requirements survey.

Year	Requested	Installed DD-5260s	Installed DD-7260s	Budgeted Repl. Terms.	New Req.
1972		25			
1973		40			
1974		62			
1975		72			
1976		189			
1977		105			
1978		186			
1979		108			
1980		76			
1981*	260	11	268**	100	72
1982	287			60	76
1983	362			100	89*

*As of May 1981
**30 Replaced DD-5260s

6.3 SHORT-TERM PLANS

ODP's short-term plans to provide centralized service encompass FY 1981 through 1983.

6.3.1 FY 1981

Two of ODP's basic services (namely DO and interactive) will require increased processing power during this period. RCC interactive service will outgrow the capacity of any of ODP's CPUs by the second quarter of FY 1981. The expanding requirements of DO/IMS service also will require that their processing configuration be upgraded by mid-FY 1981. To meet these requirements, the following has been completed or is planned:

- An IBM 3033 MP has been installed to meet the VM requirement during the second quarter of FY 1981, thereby freeing the 470V/8 for use as the primary batch machine.

- Move GIMS production to the 3033 UP (the former batch machine), freeing the 470V/6-1 for transfer to SCC to service the DO/IMS.

- Use one of the DO/IMS 370/158 APs to upgrade TADS service in RCC; the other 370/158 AP will be used to provide DO and CAMS backup.

- Move the TADS 370/158 to 4C.

6.3.2 FY 1982

During FY 1982, DO/IMS and CAMS services will need processors larger than the currently available 370/158 APs to meet their backup requirements. Further, CAMS service will need a large processor for CAMS II development. This processor will serve as the CAMS production CPU in FY 1983. Note also that GIMS production and batch services in RCC will need increased processing power. To meet the FY 1982 requirements, the following is planned:

- Procure a new system to meet batch requirements previously satisfied by the RCC 470V/8.

- Move the GIMS production service previously on the 3033 UP to the 470V/8 or a replacement CPU.

- Move the 3033 UP to SCC to be used as the primary DO/IMS machine. The 470V/6-1 then can replace the remaining 370/158 AP as the backup for both DO and CAMS.

- When not backing up either DO or CAMS, use the 470V/6-1 to satisfy DO's VM requirement.

- Procure a second new system to satisfy the CAMS II requirement.

The major advantage of this plan is that it introduces two new processors to the least response-critical functions (i.e., pure batch in RCC and CAMS II in SCC) in their developmental stage.

6.3.3 FY 1983

Assuming that the current non-linear growth pattern for VM continues, this service will need another processing power increment in FY 1983. In the interest of stability and backup, a two-CPU service may be the better option. Low-risk applications could be processed on one CPU and developmental projects on the other. It is not implied that this would be a dual system, but selected applications such as those for OSO could be on a second CPU. The existence of a separate system for DO applications will provide additional valuable experience in this concept.

Other than VM, no other processing enhancements are anticipated for FY 1983. The capabilities provided by ODP's other major services during FY 1982 also should be sufficient for FY 1983. This does not exclude the possibility of additional requirements being levied between now and FY 1983. The CAMS II development processor, acquired in FY 1982, will become the production machine during this period, with the previous year's production machine, 470V/6-1, becoming the developmental and backup processor.

6.4 LONG-TERM PLANS

For the years beyond the current program year (FY 1983), ODP plans call for annual upgrades to meet projected workload demands for computer services. Equipment that is replaced usually is reallocated to other services within ODP or other Agency projects so that many services benefit from a single, cost-effective procurement. (If plans mature for a backup center (Section 7.1), ODP will have additional opportunities to extend the usefulness of its ADP equipment.)

Although vendor announcements concerning new technology appear on a continuing basis, procedures involving planning, evaluating, and procuring make it difficult for ODP to take advantage of technological innovations before FY 1983. Alternative systems and backup costs also must be factored into ODP planning. Therefore, ODP must continually look at new developments and known requirements to develop a cost-effective extended plan.

In the area of direct-access storage, plans are being developed to take advantage of known technological improvements.

ODP currently owns five fixed-head storage subsystems. Each subsystem consists of an IBM 2835 controller and two 2305 disk drives. The primary use for these high-performance, low-density devices is to support systems with large paging requirements.

In general, the reduced cost of real memory versus fixed-head storage makes it cost-effective to use memory to lower paging rates in the multiple virtual storage (MVS) environment. If acceptable response is to be maintained in the VM environment, the inherently high multiprogramming level of this timesharing service still demands the high-performance characteristics of fixed-head disks.

The most cost-effective equipment available to meet ODP's future ADP requirements should be the newly announced IBM 3380 disk drive or its equivalent, produced by plug-compatible vendors. This equipment requires significantly less floor space, power, and cooling per megabyte than any other device currently available for ODP's use. Because of its faster transfer rates, it also provides potential performance improvements. ODP will install this equipment when it becomes available--possibly in early CY 1982.

ODP will continue to monitor requirements and technological developments in the area of mass-storage and rapid-search machines (RSM) for possible inclusion in future plans. High-speed text search (HSTS) is an integrated part of the SAFE requirement and will be accomplished by software. Acquisition of hardware for these services is not economically feasible at this time.

7 - MANAGEMENT/ADMINISTRATIVE GOALS

7.1 BACKGROUND

To continue meeting the challenges foreseen during this planning period, ODP must make every effort to not only maintain the current high capabilities of its personnel, but also to improve these capabilities through careful selection, proper training, and exacting rotational and on-the-job assignments. Increased requirements demand that a high degree of professionalism be achieved at a more rapid pace at all organizational levels. Using both staff and contract personnel, the in-house training program must be expanded to cover the range of ADP disciplines and to fully complement the software needed for the network.

In the area of survivability, ODP must work with OC to ensure that the network has an adequate backup facility to meet critical requirements. Progress toward meeting this objective is well underway; it is included in the ODP Program Call and is a part of an overall plan to ensure the adequate redundancy of telecommunications.

Security is an ongoing responsibility in the operation and control of a multifaceted, distributed-processing center. ODP has made many physical and software security advances to ensure that data are protected from inadvertent disclosure.

7.2 GOAL

ODP's goal is to ensure that every managerial effort is made to provide the Agency with highly skilled personnel, a secure ADP operating environment, and adequately redundant facilities.

7.3 PLANS

In support of its administrative goals, ODP plans to:

- Develop a coordinated program with OC so that data processing systems have adequate redundancy.

- Select and train a highly motivated corps of personnel by providing a challenging atmosphere that will include rotational assignments and other on-the-job opportunities.

- Continue to develop the means to physically and technically protect data in both benign and hostile environments.

ACRONYMS AND ABBREVIATIONS

The following is a list of acronyms and abbreviations used throughout the <u>Data Processing Long-Range Management Plan.</u>

ADP	Automatic Data Processing
ADSTAR	Automated Document Storage & Retrieval System
AIM	Automatic Information Management
ALLSTAR	Special Trace & Retrieval System
AP	Attached Processor
AUTODIR	Automated Directories
AVAD	Prediction of Foreign Weapons Capabilities
CAI	Computer Assisted Instruction
CAMS	COMIREX Automated Management System
CAPER	Minicomputer to Support Applicant Processing
COM	Computer Output Microfilm
CPU	Central Processing Unit
CRT	Cathode Ray Tube (Terminal)
CTS	Collection Tasking Staff
DA	Directorate of Administration
DASD	Direct Access Storage Device
DCI	Director of Central Intelligence
DDCI	Deputy Director of Central Intelligence
DDP	Distributed Data Processing
DO	Directorate of Operations
D/ODP	Director of Data Processing
EDS	Electronic Display System
EXCOM	Executive Committee
FARS	Federal Automated Procurement Requisitions (Minicomputer)
FOC	Full Operational Capability
FOUR C	Community-wide, Computer-assisted, Compartmentation, Control System
FRS	Financial Resources System
GAS	General Accounting System
GIMS	Generalized Information Management System
HRS	Human Resource System
HSTS	High Speed Text Search
IBM	International Business Machine Corp.
IC	Intelligence Community
IHC	Information Handling Committee, IC
IMS	Information Management Staff (DO)
INTSAFE	Interim SAFE

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LIMS	Logistics Integrated Management System
MAD	Mission Analysis System
MP	Multiprocessor

MVS	Multiple Virtual Storage
NFAC	National Foreign Assessment Center
NSC	National Security Council
OASIS	Order-of-Battle of Soviet and Chinese Forces
OC	Office of Communications
OCR	Office of Central Reference
OD&E	Office of Development & Engineering
ODP	Office of Data Processing
OER	Office of Economic Research
OF	Office of Finance
OGSR	Office of Geographic & Societal Research
OL	Office of Logistics
OMB	Office of Management & Budget
OMS	Office of Medical Services
OPPPM	Office of Personnel Policy, Planning & Management
ORD	Office of Research & Development
OS	Office of Security
OSO	Office of SIGINT Operations
OSWR	Office of Strategic and Weapons Research
PMO	Pilot Mail Operation
P&PD	Printing & Photography Division/OL
RCC	Ruffing Computer Center
RFP	Request for Proposal
RSM	Rapid Search Machine
SAFE	Support for the Analyst's File Environment
SAFEDEV	SAFE Development
SCC	Special Computer Center
SPS	Special Projects Staff
STAP	Scientific and Technical Advisory Panel
SUBINDEX	Online Intelligence Document Index
SUPPLYMAN	Inventory Control System
TADS	Technical Analysis Display System (formerly Telemetry Analysis Display System)
UP	Uniprocessor
VM	Virtual Machine
WBCS	Wideband BUS Communications System
WP	Word Processing
WPE	Word Processing Equipment

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CONSUMPTION OF ODP RESOURCES

BY DIRECTORATE

(Dollars In Thousands)

	Dollars	Percentage	
NFAC		30.7	25X1
DDA		19.3	
CTS		17.9	
DDS&T		14.9	
DDO		10.2	
DCI		7.0	
TOTAL		100	

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CONSUMPTION OF ODP RESOURCES

BY DECISION UNIT

(Dollars In Thousands)

	Dollars	Percentage	
Intelligence Production		31	25X1
PHOTINT		30	
General Support		27	
HUMINT		11	
SIGINT		1	
TOTAL		100	